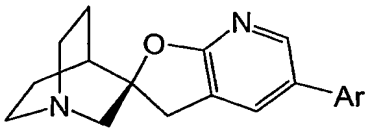
CLAIMS

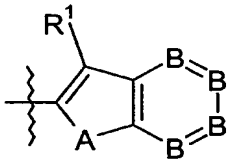
1. A compound of formula I:



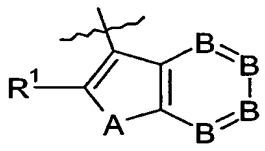
, I

and pharmaceutically-acceptable salts thereof, wherein:

Ar is a moiety of formula II or III:



II



III,

wherein,

A is O or S;

B is N at one or two occurrences and CR^1 at all other occurrences;

R^1 is independently at each occurrence hydrogen, $-R^2$, $-C_2$-C_6alkenyl, $-C_2$-C_6alkynyl, halogen, -CN, $-NO_2$, $-NR^3R^4$ or $-OR^5$;

R^2 is an unsubstituted straight-chained, branched, or cyclic C_1-C_6alkyl group, or a straight-chained, branched, or cyclic C_1-C_6alkyl group substituted with 1, 2, 3, 4 or 5 halogen atoms, and 1 or 2 substituents selected from: C_2-C_6alkenyl, C_2-C_6alkynyl, -CN, $-NR^3R^4$, or $-OR^5$;

R^3 and R^4 are independently at each occurrence hydrogen, R^5, or in combination at any one occurrence of $-NR^3R^4$ are $-(CH_2)_pJ(CH_2)_q-$ wherein J is O, S, NH, NR^5 or a bond;

R^5 is an unsubstituted straight-chained, branched, or cyclic C_1-C_6alkyl group, or a straight-chained, branched, or cyclic C_1-C_6alkyl group substituted with 1, 2, 3, 4 or 5 halogen atoms;

p at each occurrence is 2, 3, or 4;

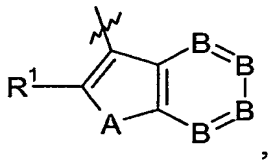
q at each occurrence is 0, 1, or 2.

2. A compound according to Claim 1 or a pharmaceutically-acceptable salt thereof,

selected from compounds wherein B is N at one occurrence and 2 or 3 occurrences of R^1 are hydrogen, or compounds wherein B is N at two occurrences and 3 or 4 occurrences of R^1 are hydrogen.

3. A compound according to Claim 1 wherein B is N at one occurrence.

4. A compound according to Claim 1 or a pharmaceutically-acceptable salt thereof, wherein Ar is formula IV:



, IV

5. A compound according to Claim 1 or a pharmaceutically-acceptable salt thereof, wherein A is O.

6. A compound according to Claim 1, selected from the group consisting of:

(2'R)-5'-(furo[3,2-b]pyridine-3-yl)spiro{1-azabicyclo[2.2.2]octane-3,2'(3'H)-furo[2,3-b]pyridine};

(2'R)-5'-(furo[3,2-c]pyridine-3-yl)spiro{1-azabicyclo[2.2.2]octane-3,2'(3'H)-furo[2,3-b]pyridine};

(2'R)-5'-(furo[2,3-b]pyridine-3-yl)spiro{1-azabicyclo[2.2.2]octane-3,2'(3'H)-furo[2,3-b]pyridine}; and

(2'R)-5'-(furo[2,3-c]pyridine-3-yl)spiro{1-azabicyclo[2.2.2]octane-3,2'(3'H)-furo[2,3-b]pyridine}.

7. A pharmaceutical composition comprising a compound according to Claim 1, and a pharmaceutically-acceptable diluent or carrier.

8. The pharmaceutical composition according to Claim 7, for use in the treatment of prophylaxis of human diseases or conditions in which activation of the α7 nicotinic receptor is beneficial.

9. The pharmaceutical composition according to Claim 7, for use in the treatment or prophylaxis of neurological disorders, psychotic disorders or intellectual impairment disorders.

10. The pharmaceutical composition according to Claim 7, for use in the treatment or prophylaxis of Alzheimer's disease, learning deficit, cognition deficit, attention deficit, memory loss, Attention Deficit Hyperactivity Disorder, anxiety, schizophrenia, or mania or manic depression Parkinson's disease, Huntington's disease, Tourette's syndrome, neurodegenerative disorders in which there is loss of cholinergic synapse, jetlag, smoking, addiction to tobacco, nicotine addiction including that resulting from exposure to products containing nicotine, craving, pain, and for ulcerative colitis.

11. Use of a compound according to Claim 1, in the manufacture of a medicament for the treatment or prophylaxis of human diseases or conditions in which activation of the α7 nicotinic receptor is beneficial.

12. Use of a compound according to Claim 1, in the manufacture of a medicament for the treatment or prophylaxis of neurological disorders, psychotic disorders or intellectual impairment disorders.

13. The use according to Claim 12, wherein the condition or disorder is Alzheimer's disease, learning deficit, cognition deficit, attention deficit, memory loss, Attention Deficit Hyperactivity Disorder.

14. The use according to Claim 12, wherein the disorder is anxiety, schizophrenia, or mania or manic depression.

15. The use as claimed in claim 12, wherein the disorder is Parkinson's disease, Huntington's disease, Tourette's syndrome, or neurodegenerative disorders in which there is loss of cholinergic synapses.

16. Use of a compound according to Claim 1 in the manufacture of a medicament for the treatment or prophylaxis of jetlag, cessation of smoking, addiction to tobacco, nicotine addiction including that resulting from exposure to products containing nicotine, craving, pain, and for ulcerative colitis.

17. A method of treatment or prophylaxis of human diseases or conditions in which activation of the α7 nicotinic receptor is beneficial which comprises administering a therapeutically effective amount of a compound according to Claim 1.

18. A method of treatment or prophylaxis of psychotic disorders or intellectual impairment disorders, which comprises administering a therapeutically effective amount of a compound according to Claim 1.

19. The method according to Claim 18, wherein said psychotic disorder is Alzheimer's disease, learning deficit, cognition deficit, attention deficit, memory loss, Attention Deficit Hyperactivity Disorder Parkinson's disease, Huntington's disease, Tourette's syndrome, a neurodegenerative disorder in which there is loss of cholinergic synapses anxiety, schizophrenia or mania or manic depression.

20. A method of treatment or prophylaxis of jetlag, cessation of smoking, nicotine addiction, craving, pain, and for ulcerative colitis, which comprises administering a therapeutically effective amount of a compound according to Claim 1.

21. A compound according to Claim 1, wherein one or more of the atoms is a radioisotope of the element.

22. A compound according to Claim 21, wherein the radioisotope is tritium.

23. The use of a compound according to Claim 21, in a screen for the discovery of novel medicinal compounds which bind to and modulate the activity, *via* agonism, partial agonism, or antagonism, of the α7 nicotinic acetylcholine receptor.